HYFORE
WORKHOLDING

WHY USE **AMORPHOUS CORE TRANSFORMERS?**

It's gripping stuff...

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powerstar®

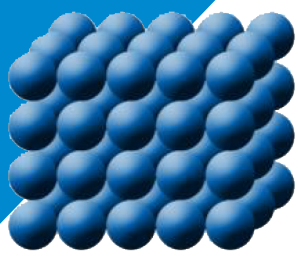
Why You Should Consider Replacing Your Existing Step Up and Step Down Transformers with Amorphous Core Transformers

Transformers are employed widely and for a multitude of purposes. Due to their long history, they have become overlooked and regarded as a constant, something that does a job and only requires attention if a problem occurs. However, now more than ever, businesses need to look at their site's energy use holistically in order to achieve the UK's ambitious Net-Zero targets.

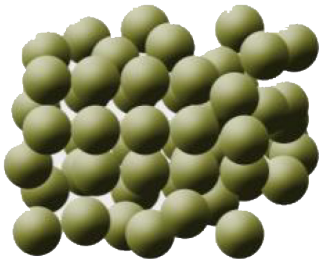
Amorphous Core technology has been widely researched and findings show that Amorphous Core transformers provide a super-low core loss alternative to conventional cold rolled grain orientated steel (CRGO) transformers. This newer technology provides higher efficiencies, longevity and low magnetising current.

Due to the atomic structure and thickness of the Amorphous Core metal material, up to 80% of the losses experienced by conventional transformers are avoided. It is the random pattern of the amorphous atom that allows for lower resistance to magnetisation cycles and delivers lower core losses.

This high level of efficiency delivers substantial savings in operating costs and thousands of kg of savings in CO_2 annually.



CRGO



Amorphous

£34,040 FORECAST 10-YEAR SAVINGS

43tCO_2e FORECAST 10-YEAR CARBON REDUCTION

But Aren't Amorphous Core Transformers More Expensive?

Whilst conventional transformers are initially cheaper than Amorphous Core transformers, they consume their **initial purchase cost in wasted energy approximately every 9 months** (based on the industry standard of 5% losses). Therefore, over a period of 15 years, traditional transformers will consume **20 times their purchase price in energy losses and emit in excess of 73,000kg of CO_2**. In contrast each of Powerstar's Amorphous Core transformers will only consume between £200 and £300 of energy per year as their **losses are less than 1%**, taking more than 20 years to consume their initial cost in energy, and **saving more than 78,000kg CO_2** in this period.

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Features

- Bespoke solution to meet client's requirements
- Experienced UK manufacturer of quality amorphous core transformers
- Dedicated customer service
- Powerstar meets the highest quality standards including: **UL Quality Assurance, Quality Assurance ISO 9001:2015, Environmental Management ISO 14001:2015**

Benefits

- Up to 80% lower core losses compared to CRGO transformers
- Delivers greater consumption savings on average compared to traditional CRGO transformers
- Contributes towards CS by reducing CO_2 emissions
- Gain instant energy consumption savings
- Reduce operating costs

Amorphous core transformers can be retrofitted to all new and used machine tools.

Who is the Amorphous Core Transformer for?

Amorphous Core transformers can be made to either step-up or step-down your voltage to allow non-UK manufactured equipment to operate smoothly within the UK.

This is particularly necessary for machines manufactured in the USA, Japan, Taiwan and Korea.

Therefore, with the cost and efficiency benefits of the Amorphous Core transformers, they are ideal for organisations that consume a high amount of electricity and operate a lot of American, Japanese, Taiwanese and Korean electrical equipment to perform their business operations.

This is often the case with turning and milling machinery.

DESIGNED & MADE IN THE UK

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The benefits to upgrading

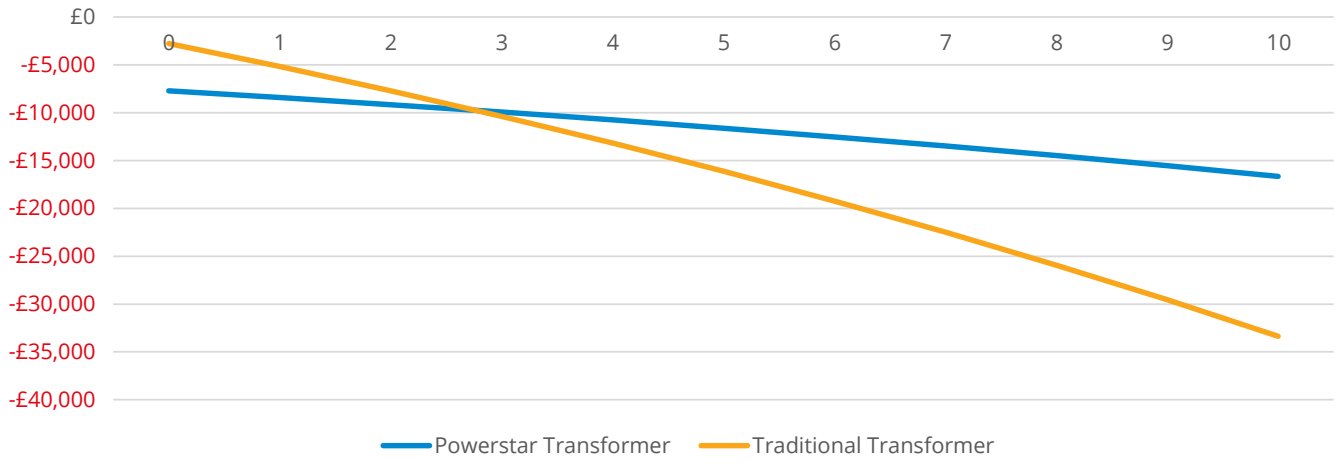
Simple changes such as implementing super-low loss amorphous core transformers will go far to help businesses achieve not only their decarbonisation goals and green credentials, but will also help to demonstrate a business's thought leadership and environmental concern.

When compared with a traditional transformer, Powerstar's amorphous core technology provides significant CO_2 and cost benefits.

The following is based on real data relating to the operation of a Nakamura CNC machine.

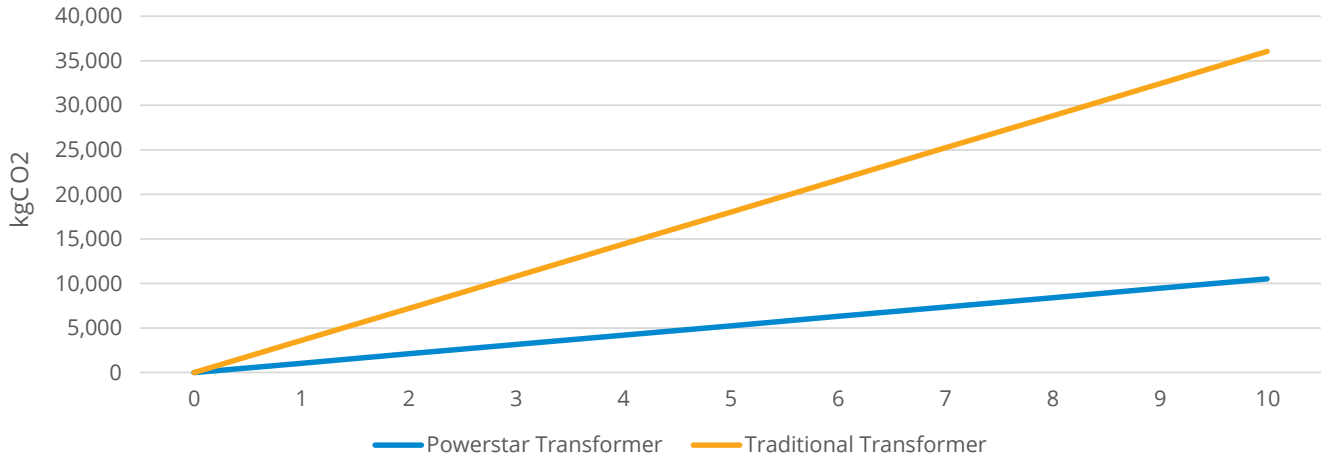
Cumulative Cash Flow

The above graph shows the cumulative cash benefit of replacing a traditional transformer with a Powerstar amorphous core transformer. Due to the increased efficiency, the capital investment of the Powerstar transformer over it's lifetime is **£16,652**, half the investment of the traditional transformer at **£33,363**.



Cumulative CO2 Emissions

The above graph shows the cumulative CO_2 benefit of replacing a traditional transformer with a Powerstar amorphous core transformer. Over its lifetime, a traditional transformer produces 36,042kg of CO_2, with the Powerstar transformer only producing **10,511kg**.



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Contact me with any questions you may have, about super low loss step down transformers for your machine tool. **Finance:** ask your representative about finance packages available*

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*Subject to acceptance.